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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,746	11/07/2007	Robert Andrew Oliver	TORO0120PUSA	5881
22045 7590 07/18/2011 BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			EXAMINER BISHOP, ERIN D	
			ART UNIT 3655	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,746	Applicant(s) OLIVER ET AL.	
	Examiner ERIN D. BISHOP	Art Unit 3655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/9/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed 5/9/2006 has been received and considered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the fourth epicyclic recited in claims 6 and 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

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consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because the appropriate headings of the parts of the description are missing. See PCT Administrative Instructions 204 and MPEP 1823.

Appropriate correction is required.

Claim Objections

5. Claims 1 and 3-6 are objected to because of the following informalities:

in claim 1, lines 4 and 6, and claim 3, lines 4 and 6, element "the variator:" should be corrected to --the ratio varying unit--;

in claim 1, lines 11 and 14, and claim 3, lines 7 and 8, element "the variator" should be corrected to --the ratio varying unit--;

in claim 3, line 12, element "shaft:" should be corrected to --shaft--;

in claims 3-6, element "the said" should be corrected to either --the-- or --said-- (for example, claim 3, line 18).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, lines 8-9, the phrase "the output of the first epicyclic" renders the claim indefinite because it lacks antecedent basis.

Regarding claim 2, line 1, the phrase "A continuously variable ratio transmission" renders the claim indefinite because it appears to be a double inclusion of the continuously variable ratio transmission previously recited in claim 1. It appears the claim should read --The continuously variable ratio transmission--.

Regarding claim 3, line 16, the phrase "said driven rotatable shaft" renders the claim indefinite because it lacks antecedent basis.

Regarding claim 3, lines 17 and 18, and claim 5, line 2, the phrase "said one driven rotatable member" renders the claim indefinite because it lacks antecedent basis and it is unclear which driven rotatable member is being referred to.

Regarding claim 4, lines 2 and 3, claim 5, line 3, and claim 6, lines 2, 3-4, 5, and 6, the phrase "said other driven rotatable member" renders the claim indefinite because it lacks antecedent basis and it is unclear which driven rotatable member is being referred to.

Regarding claims 4, 5, 6, and 7, line 1, the phrase "A CVT" renders the claim indefinite because it appears to be a double inclusion of the continuously variable ratio transmission previously recited in claim 3. It appears the claim should read --The continuously variable ratio transmission--.

Claims 2 and 4-7 are also rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Garnett, U.S. Patent 6,056,657.

Regarding claim 1, as best understood, Garnett discloses a continuously variable ratio transmission (CVT) (see fig. 1) comprising:

- (a) a ratio varying unit (i.e., pump 26 and motor 28, fig. 1);
- (b) a first epicyclic having two inputs connected to opposite sides of the variator (i.e., carrier 47 is connected to pump 26 via ring 44 and clutch 40 or 42; sun 36 is connected to motor 28, fig. 1);
- (c) a second epicyclic having an input driven by a prime mover and components connected to opposite sides of the variator (i.e., ring 44 is driven by engine 22 via clutch

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40 or 42; ring 44 is connected to pump 26 via clutch 40 or 42; sun 38 is connected to motor 28, fig. 1);

(d) a final drive shaft (i.e., output 59, fig. 1);

(e) a low regime clutch for selectively connecting the output of the first epicyclic to the final drive shaft in low regime (i.e., in second gear, clutch 100 connects ring 52 to output 59 via ring 54, fig. 1);

(f) a third, mixing, epicyclic connected to the output of the first epicyclic (i.e., ring 54 directly connected to ring 52, fig. 1) and connected or connectable to the variator (i.e., sun 34 connected to motor 28, fig. 1) and being connectible with the final drive shaft in high regime by way of a high regime clutch (i.e., in third gear, clutch 62 connects ring 54 to output 59, fig. 1);

wherein the high and low regimes are coincident at at least one variator ratio (i.e., second and third gear ratios are coincident at the synchronous shift point, fig. 2a) and the variator operates in opposite directions in the low and high regimes (i.e., motor 28 operates in both the positive and negative directions in both the second and third gears, fig. 2a).

Regarding claim 2, as best understood, Garnett discloses the operation ranges of the high and low regimes overlap (i.e., second and third gear ratios overlap at the synchronous shift point, fig. 2a).

Regarding claim 3, as best understood, Garnett discloses a continuously variable ratio transmission (CVT) (see fig. 1) comprising:

- (a) a ratio varying unit (i.e., pump 26 and motor 28, fig. 1);
 - (b) a first epicyclic having two inputs connected to opposite sides of the variator (i.e., carrier 47 is connected to pump 26 via ring 44 and clutch 40 or 42; sun 36 is connected to motor 28, fig. 1);
 - (c) a second epicyclic having an input driven by a prime mover and components connected to opposite sides of the variator (i.e., ring 44 is driven by engine 22 via clutch 40 or 42; ring 44 is connected to pump 26 via clutch 40 or 42; sun 38 is connected to motor 28, fig. 1);
 - (d) a final drive shaft connectible with the variator by way of one of two alternative driven rotatable members connected to opposite sides of the variator respectively (i.e., output 59 connected to motor 28 via clutch 62, 100, or 102 and driven member 32, fig. 1); and
- a first clutch disposed between an output of the first epicyclic and the final drive shaft for selectively connecting the output of the first epicyclic to the final drive shaft (i.e., clutch 100 connects ring 52 to output 59 via ring 54, fig. 1);

the transmission further comprising:

- a third, mixing, epicyclic disposed between at least one of the driven rotatable members and the final drive shaft (i.e., ring 54 disposed between driven member 23 and output 59, fig. 1) and receiving inputs from the output of the first epicyclic and said driven rotatable shaft (i.e., ring 54 directly connected to ring 52, fig. 1); and

a second clutch disposed between said one driven rotatable member and the final drive shaft for selectively connecting the said one driven rotatable member to the final drive shaft via the third epicyclic (i.e., clutch 62 connects driven member 32 to output 59 via sun 34, fig. 1).

Regarding claim 4, as best understood, Garnett discloses a third clutch disposed between said other driven rotatable member and the final drive shaft for selectively connecting the said other driven rotatable member to the final drive shaft via the third epicyclic (i.e., clutch 70 connects driven member 23 to output 59 via planets 56, fig. 1).

Regarding claim 5, as best understood, Garnett discloses the second and third clutches are disposed respectively between the said one driven rotatable member and the third epicyclic and between the said other driven rotatable member and the third epicyclic (see fig. 1).

10. Claims 3, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nikolaus et al., U.S. Patent 5,159,855.

Regarding claim 3, as best understood, Nikolaus et al. discloses a continuously variable ratio transmission (CVT) (see fig. 1) comprising:

(a) a ratio varying unit (i.e., engines 10 and 12, fig. 1);

(b) a first epicyclic having two inputs connected to opposite sides of the variator (i.e., ring 35 connected to engine 10; sun 37 connected to engine 12, fig. 1);

(c) a second epicyclic having an input driven by a prime mover and components connected to opposite sides of the variator (i.e., carrier 26 driven by input 3; carrier 26 connected to engine 10; ring 25 connected to engine 12 via ring 37, fig. 1);

(d) a final drive shaft connectible with the variator by way of one of two alternative driven rotatable members connected to opposite sides of the variator respectively (i.e., output 71 connected to engine 10 via driven member 6 and planetary gear transmission, fig. 1); and

a first clutch disposed between an output of the first epicyclic and the final drive shaft for selectively connecting the output of the first epicyclic to the final drive shaft (i.e., clutch K2 connects carrier 36 to output 71, fig. 1);

the transmission further comprising:

a third, mixing, epicyclic disposed between at least one of the driven rotatable members and the final drive shaft (i.e., sun 57 disposed between driven member 14 and output 71, fig. 1) and receiving inputs from the output of the first epicyclic and said driven rotatable shaft (i.e., sun 57 connected to carrier 36 and driven member 14 via sun 37, fig. 1); and

a second clutch disposed between said one driven rotatable member and the final drive shaft for selectively connecting the said one driven rotatable member to the final drive shaft via the third epicyclic (i.e., clutch K1 connects driven member 14 to output 71 via sun 37, fig. 1).

Regarding claim 6, as best understood, Nikolaus et al. discloses:

a fourth epicyclic disposed between said other driven rotatable member and the final drive shaft and receiving inputs from the output of the first epicyclic and said other driven rotatable shaft (i.e., sun 67 between driven member 14 and output 71, fig. 1); and

a third clutch disposed between said other driven rotatable member and the final drive shaft for selectively connecting the said other driven rotatable member to the final drive shaft via the fourth epicyclic (i.e., clutch KR between driven member 14 and output 71 via sun 67, fig. 1).

Regarding claim 7, as best understood, Nikolaus et al. discloses the second and third clutches are disposed respectively between the third epicyclic and the final drive shaft and the fourth epicycle and the final drive shaft (see fig. 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN D. BISHOP whose telephone number is (571)270-3713. The examiner can normally be reached on Monday to Thursday, 9AM-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Le can be reached on 571-272-7092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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07/17/2011